CALIFORNIA BAY-DELTA AUTHORITY

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Agenda Item: 7
Meeting Date: June 15, 2006

CONSIDERATION OF A RESOLUTION RECOMMENDING THAT THE DEPARTMENT OF FISH AND GAME PROCEED WITH AWARDING A CALFED ECOSYSTEM RESTORATION PROGRAM GRANT TO THE DEPARTMENT OF WATER RESOURCES FOR THE PROJECT: NORTHERN PIKE CONTAINMENT SYSTEM AT LAKE DAVIS

Summary: This resolution recommends to the Department of Fish and Game that it proceed with an Ecosystem Restoration Program grant of up to $2 million to support the project, Northern Pike Containment System at Lake Davis, described in Attachment 1 of Resolution 06-06-06.

Recommended Action: The Authority adopt the attached Resolution 06-06-06.

Background

The Ecosystem Restoration Program (ERP) implementing agencies are engaged in the ongoing process of evaluating CALFED ERP Directed Action project proposals. Directed Action project proposals address ERP implementation priorities of special near-term importance or address an urgent or timely issue or unique opportunity in response to immediate ERP priorities. These proposed projects must meet the priorities referenced in CALFED planning documents, including the CALFED Record of Decision, Draft Stage 1 Implementation Plan, or current Multi-Year Program Plan. A high-priority proposal is being presented for a funding approval recommendation.

Northern pike (*Esox lucius)* are a nonnative invasive fish species that has had a significant impact on the sport trout fishery at Lake Davis and that, if they escape from Lake Davis, could have irreversible negative impacts on California aquatic ecosystems and salmonid stocks within the San Francisco Bay-Delta, the Sacramento/San Joaquin river systems, and many other waters throughout California. The proposed project is intended to confine northern pike within Lake Davis and its upstream tributaries, and to operationally minimize the chance of allowing expansion of the northern pike population into the streams and watersheds downstream of Lake Davis. In addition, the Department of Water Resources will continue reservoir operations that minimize the potential of unregulated spills. Both of these measures should decrease the risk of pike escapement until the Department of Fish and Game can successfully eradicate pike from the reservoir.

Attachment 1 of the Resolution describes the Northern Pike Containment System at Lake Davis project and how it helps achieve ERP goals. The full proposal is available at: http://calwater.ca.gov/Programs/EcosystemRestoration/Ecosystem_Grants.asp

The Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002, Water Code Division 26.5, annotated (Proposition 50) specifies that the ERP implementing agencies may disburse funds through grants (79505.6 Water Code Division 26.5). This Directed Action proposal is being recommended for funding based on the following selection criteria:

- The proposal is for an eligible project within the meaning of Proposition 50 because it implements the CALFED Bay-Delta Program's ERP.
- The proposal meets the goals and objectives of the CALFED Program.
- The proposal addresses an ERP implementation priority of special near-term importance or a unique opportunity.

Fiscal Information

Funding Source: Proposition 50 CALFED Ecosystem Restoration Program Funds
Term: Three years from executing the agreement
Total Amount: Up to $2,000,000

List of Attachments

Resolution 06-06-06
Attachment 1 – Ecosystem Restoration Project Description

Contact

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Ecosystem Restoration Program

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CALIFORNIA BAY-DELTA AUTHORITY

RESOLUTION 06-06-06

RECOMMENDING THAT THE DEPARTMENT OF FISH AND GAME PROCEED WITH AWARDING A CALFED ECOSYSTEM RESTORATION PROGRAM GRANT TO THE DEPARTMENT OF WATER RESOURCES FOR THE NORTHERN PIKE CONTAINMENT SYSTEM AT LAKE DAVIS PROJECT

WHEREAS, the CALFED Ecosystem Restoration Program presents a comprehensive vision for improving and increasing aquatic and terrestrial habitats and improving ecological functions in the Bay-Delta ecosystem; and

WHEREAS, those State and Federal agencies with CALFED Program restoration funds have coordinated their efforts to solicit for, and select, the best projects to implement the Ecosystem Restoration Program, with assistance of the staff from the California Bay-Delta Authority; and

WHEREAS, the Department of Fish and Game has received an appropriation of Proposition 50 Bay-Delta Ecosystem Restoration Account funds in its Fiscal Year 2004-05 State Budget which has been reappropriated in 2005-06; and

WHEREAS, the Department of Fish and Game may distribute funds through grants; and

WHEREAS, Northern pike (*Esox lucius)* are a nonnative invasive fish species that could have irreversible negative impacts on California aquatic ecosystems and salmonid stocks within the San Francisco Bay-Delta, the Sacramento/San Joaquin river systems, and many other waters throughout California, and

WHEREAS, the proposed project listed in Attachment 1 is intended to confine northern pike within Lake Davis and its upstream tributaries, and to operationally minimize the chance of allowing expansion of the northern pike population into the streams and watersheds downstream of Lake Davis until the Department of Fish and Game can successfully eradicate pike from the reservoir, and

WHEREAS, the proposal listed in Attachment 1 constitutes an eligible project for purposes of receiving Proposition 50 Bay-Delta Ecosystem Restoration Account funds; and

WHEREAS, the proposal listed in Attachment 1 currently meets the objectives of the CALFED Program; and

WHEREAS, approval of this proposal shall be conditioned upon the recipient complying with all applicable laws and regulations; and

NOW, THEREFORE, BE IT RESOLVED that the California Bay-Delta Authority recommends to the Department of Fish and Game that it proceed with awarding a grant of up to $2,000,000 to the Department of Water Resources for the project Northern Pike Containment System at Lake Davis.

CERTIFICATION

The undersigned Assistant to the California Bay-Delta Authority does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the Authority held on June 15, 2005.

Dated: _____

_____
Julia E. Alvis
Assistant to the California Bay-Delta Authority

Ecosystem Restoration Project Description

Proposal Number: DFG-DA007-05
Applicant Organization: California Department of Water Resources
Proposal Title: Northern Pike Containment System at Lake Davis
Recommended funding: $2,000,000

Description: Northern pike (*Esox lucius)* are a nonnative invasive fish species that has had a significant impact on the sport trout fishery at Lake Davis and that, if they escape from Lake Davis, could have irreversible negative impacts on California aquatic ecosystems within the San Francisco Bay-Delta, the Sacramento/San Joaquin river systems, and many other waters throughout California. One impact on ecosystems where nonnative northern pike have been introduced has been the decline of salmonid stocks.

The proposed project is designed to protect against unintended release of Northern Pike (fish, eggs, and larvae) as a result of normal water operations and downstream releases conducted by the Department of Water Resources (DWR). The proposed project is designed to confine northern pike within Lake Davis and its upstream tributaries, and to minimize, as a result of regulated releases through the dam and into Big Grizzly Creek, the chance of allowing expansion of the northern pike population into the streams and watersheds downstream of Lake Davis. In addition, DWR will continue reservoir operations that minimize the potential of unregulated spill. Both of these measures should decrease the risk of pike escapement until the Department of Fish and Game (DFG) can successfully eradicate pike from the reservoir.

After evaluating several options, DWR selected a northern pike containment system for Lake Davis discharges. Water discharged through the outlet will flow through six to eight mesh-basket “strainers,” each containing multiple baskets with 1.0 millimeter (mm) openings. Each basket will be reinforced to prevent bursting. The 1.0 mm openings will catch northern pike eggs, larvae, and juvenile and adult fish. After passing through the strainer system, the pike-free water is released into Big Grizzly Creek. The new containment system, once installed, would operate 24 hours a day, year round. The containment system is designed to operate for 5 years. DWR assumes that DFG will eradicate the northern pike population from Lake Davis within that time period. If DFG does not eradicate pike or chooses instead to manage the pike population within the lake, the containment system, with additional modification, could operate indefinitely.

System Components

The existing 30-inch outlet pipe at the outlet works will be extended downstream to the Cipolletti weir. Water will be diverted off this pipe into six to eight strainers. Water will exit the strainers and flow through a second pipe and discharge downstream of the Cipolletti weir. During normal operation, all flow will pass through the pipes leading to the strainers.

The 30-inch grater that is currently on the end of the outlet pipe will be placed on the end of the pipe extension at the Cipolletti weir. During emergency flow releases, water will flow through the pipe extension with the grater. In addition, emergency release water will also flow through the strainers. Because some emergency release water will only flow through the pipe with the grater, small fish and eggs could still escape from the reservoir during an emergency release. Flow to each strainer and through the pipe extension will be controlled manually by a series of valves.

At the start of construction, the existing 10-inch stream-release outlet pipe will be extended from the outlet building to the release point downstream of the Cipolletti Weir. The 10-inch pipe will be used as a temporary release during construction and until the strainers have been tested and are online. The existing 10-inch grater will be fitted on the end of the extended 10-inch pipe, killing any larger fish that may be entrained from the reservoir. Small fish and eggs could still escape from the reservoir during the temporary, construction releases. The temporary 10-inch pipe extension will be supported by 2 ft x 2 ft pipe supports in the streambed. Once the strainers are online, the 10-inch pipe extension will be removed along with the supports.

Each strainer houses multiple mesh-baskets perforated with 1.0 mm openings within a reinforced steel case. The strainers will be 3 feet in diameter and 5 feet tall. The six to eight strainers will be located within the streambed immediately downstream of the existing outlet's energy dissipating wall and upstream of the Cipolletti weir. The strainers will sit upon individual concrete footings constructed on the cleared surface of the existing streambed. The strainers, fed by the 24-inch line, will have a combined maximum discharge of 190 cubic feet per second (cfs). The strainers will have the capability to discharge 10 to 23 cfs, matching the minimum stream-release requirements.

The strainers and emergency release will discharge immediately downstream of the Cipolletti weir onto existing rock. The rock in this area is large enough and in sufficient density to prevent down cutting of the stream and erosion of the bank. We anticipate no significant increase in the siltation of Big Grizzly Creek due to strainer or emergency releases. Existing rock downstream of the Cipolletti weir will stabilize the bank, prevent erosion, and dissipate energy.

Once the strainers are operational, staff will check the strainers daily to determine if the baskets need to be cleaned of debris. If necessary, the debris and waste from the baskets will be removed and taken to the Intermountain Disposal Company's transfer station in Delleker, California (one mile west of Portola on Highway 70) and trucked to a county landfill in Lockwood, Nevada. Redundant strainers and extra baskets will prevent interruption in desired flow releases. The mesh-baskets will be light enough to allow one person to remove them from the strainer casing during cleaning.